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1969/11/13

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THE SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

2 6 NOV 1969

MEMORANDUM FOR: Assistant to the President for National Security Affairs

Attached is the continuation of the Joint Chiefs of Staff plan on an air campaign against North Vietnam. As I indicated earlier, I shall have some comments and observations to make concerning this plan. I shall forward my comments shortly. In the meantime, I thought you might find it useful to have the plan for perusal.

Attachment

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Page 1 of 1 Pages

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THE JOINT CHIEFS OF STAFF
WASHINGTON, D. C. 20301

EYES ONLY

JCSM-712-69
13 November 1969

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: PRUNING KNIFE ALPHA (U)

1. (TS) An outline plan for the conduct of offensive air and naval operations against North Vietnam has been prepared in accordance with guidance provided.

2. (TS) The objective of the plan is to impose maximum possible damage on North Vietnamese economic and war supporting targets within a seven or fourteen strike day period. The operations will be designed to achieve maximum impact on the North Vietnamese economy so as to significantly reduce its capability to function as a viable entity, and at the same time, achieve a high psychological impact. Following initial operations, a continuing campaign will be conducted against land and sea lines of communication (LOC) to cause disruption of the enemy's attempts to accommodate to the mining of the ports and to complicate North Vietnamese efforts to rebuild its severely damaged economy.

3. (TS) Concept.

a. General.

(1) The basic concept is to conduct operations in two phases:

(a) An initial seven or fourteen strike-day phase, employing all available air and naval resources, to:

1. Inflict maximum damage on economic and war supporting facilities, with particular emphasis on those which cannot be replaced without external support.

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2. Close all ports by mining and seeding, interdict waterborne logistic traffic, and interdict principal LOC from China.

3. Create psychological impact on the North Vietnamese Government and people by attacking economy oriented targets in the Hanoi/Haiphong complex, the major population, industrial, and import center of North Vietnam.

(b) A follow-on phase, targeted against land and sea LOC, employing the minimum essential force necessary to cause disruption of the enemy's attempts to accommodate to the mining of the ports and to complicate North Vietnamese efforts to rebuild its severely damaged economy. This phase will emphasize periodic reseeding of the minefields, and attacks on key interdiction points on the Northeast and Northwest rail lines, highways, and the water transportation system.

(2) The concept features surprise and concentration of effort during the initial phase to attain the maximum possible destruction of economic and war support targets and achieve significant psychological impact.

b. Options.

(1) Four separate options were directed for the initial phase. They consist of a seven and fourteen strike day option for each of the two monsoon seasons, the Northeast and the Southwest. The follow-on phase is identical for all options.

Option I. Seven strike day Southwest Monsoon option.

Option II. Fourteen strike day Southwest Monsoon option.

Option III. Seven strike day Northeast Monsoon option.

Option IV. Fourteen strike day Northeast Monsoon option.

(2) Each option includes:

(a) Air strikes against economic and war support targets. Insofar as possible, strikes will be continued until targets are damaged to the extent that they can no longer contribute to the economy of the country or support of the war, and to compel an extended recovery time. The number of targets attacked and the degree of damage attained will be a function of time, weather, and sortie availability.

(b) Early air strike against high value targets that can be readily dispersed.

(c) Aerial mining and seeding to close North Vietnam's deepwater ports to maritime shipping (Appendix E).

(d) Naval gunfire and air strikes against lighterage, coastal traffic, and associated logistic targets that develop as the enemy attempts to accommodate to the mining.

(e) Air attacks against the Northeast and Northwest rail lines and principal highway routes from China.

(f) Strikes against the North Vietnamese Air Order of Battle and surface-to-air missile threats as required to minimize losses and to improve the effectiveness of the follow-on strike effort.

(g) Continuing operations, upon completion of the seven or fourteen strike day period, at the minimum level necessary to reseed minefields and selectively interdict LOC. The purpose of follow-on operations will be to disrupt the enemy's attempts to accommodate to the closure of his ports and to complicate his efforts to rebuild a severely damaged economy.

4. (TS) Forces. During the initial seven and fourteen day phases, all available air and naval forces which are capable of being employed against North Vietnam will be committed to the stated objectives.

a. Appendix A provides sortie data on force generation rates for the seven and fourteen day phases. This data shows the maximum sustained sortie capability taking into account such operational considerations as weather, aircraft carrier cycling and deck loading, tanker offload requirements, strike timing, and estimated attrition. The sortie availability shown is suitable for force planning and operational analysis; however, the actual number of sorties flown will vary on a day to day basis depending on weather, combat and operational losses, and other operational factors. Field Commanders will operate under instructions to field a maximum effort.

b. The force generation rate in Appendix A requires a decision lead time of 96 hours to allow prepositioning of a fourth aircraft carrier and tanker augmentation. Weather permitting, this would provide about 740 sorties per day for the first seven days and some 690 sorties for the next seven days. If a more rapid response is desired, initial capability will be somewhat reduced. Based on favorable weather, about 85 percent of the forces (630 sorties) can be committed with 48 hours lead time and 70 percent (518 sorties) with 36 hours lead time.

c. B-52 aircraft, due to their bomb load and all weather capability could provide added weight to the attacks, but have not been included because of political and other aspects and because they are not necessary to successful execution of the plan by tactical air alone.

5. (TS) Force application.

a. Initial Phase.

(1) In order to provide maximum disruption for the enemy and complicate North Vietnam's efforts to adjust to first strikes, the full target spectrum of those key economic targets in Appendix C will be struck in the initial attack to the extent permitted by attack duration, weather, and force availability. Following the initial laydown, an assessment will be made of the damage levels achieved and the effectiveness of the first strikes. Additional effort will be applied to attain the damage necessary to render specific targets incapable of contributing further to the economy.

(2) Initial strikes against the North Vietnam counter-air capability are directed toward destruction or dispersion of the air order of battle and neutralization of known surface to air missile sites. Restrikes will be applied as necessary to prevent the enemy from restoring his fixed bases and will dilute his air defense capability.

(3) Early attacks against high value economic targets which can be readily dispersed will cut away at his stockpiles and accelerate the impact of closing the deepwater ports.

(4) Mining and seeding of water entry points will commence on the first strike day. Initial laid mines and destructors will be set to activate 72 hours after commencement of the operation. The 72 hour delay is designed to influence third country decisions to leave North Vietnam ports and deter other ship arrivals as soon as possible.

(5) Because the enemy is expected to resort to lighterage in accommodating to the mining, such targets of opportunity will be struck using naval gunfire as well as available air sorties.

(6) In the event all the above tasks are completed ahead of schedule, selected facilities in the supplemental target list in the Annex to Appendix C and additional valid, economy associated targets of opportunity will be attacked to increase the impact and duration of effect of the initial phase.

(7) B-52 aircraft, due to their bomb load and all weather capability, could add weight to the attack but have not been included because of political and other aspects and because they are not necessary to the successful execution of the plan by tactical air alone.

b. Follow-on Phase.

(1) Approximately 100 strike sorties per day will be the planned level after the seven and fourteen strike day periods. These sorties are designed to continually harass the enemy's attempts to accommodate to the loss of its economic facilities and its seaborne imports.

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(2) Typical strike sortie distribution will be as follows:

(a) Sixty sorties against targets on the Northeast and Northwest rail lines, and principal highway routes as listed in Appendix D. As the enemy accommodates, interdiction points will be adjusted to create the maximum disruptive effect.

(b) Thirty sorties against waterborne logistic craft and coastal traffic. These will be augmented by naval gunfire, primarily during night and periods of marginal weather.

(c) Ten night/all-weather sorties will be used to harass recovery crews on principal LOC.

(d) Reseeding will require approximately 30 sorties per month.

c. In all options the initial ratio of strike to support aircraft will be about 55:45 (400 strike and 340 support sorties for a full operational day, or 208 strike and 182 support sorties for a three or four hour operational day). If the plan is initiated during the Southwest Monsoon, attacks against the North Vietnam Air Order of Battle and surface to air missile threats, combined with generally uninterrupted operations, will permit a reduction in the strike to support ratio as the campaign progresses. After the first seven days, the planning ratio will be about 62:38 (434 strike and 260 support sorties for a full operational day). If the plan is initiated during the Northeast Monsoon, weather interruptions will give the enemy an opportunity to reconstitute his air defense forces. For this reason, the planning ratio will remain at about 55:45 throughout the seven or fourteen day initial phase; for a three to four hour operational day, this equates to 208 strike and 183 support sorties.

d. Following the initial phase, the forces employed will require continuous adjustment based on the enemy's efforts to accommodate to closure of ports, his ability to reconstitute his defenses and develop alternate LOC, and operational factors, including weather. During this follow-on phase of the operation, operational commanders will determine the strike force composition based on current intelligence and operational factors, and the ratio of strike to support aircraft will vary significantly from mission to mission. For example, missions against lighterage and coastal traffic would require fewer support aircraft than would missions against the Northeast rail line. For the approximately 167 total daily sorties in the follow-on phase, an overall ratio of 60:40 is suitable for planning.

6. (TS) Weather. Weather will be a critical factor in the execution of this plan.

a. The Northeast Monsoon brings a season of generally unfavorable weather for strike operations from 1 November to 31 March. During this season, there may be several days delay after the execution order before suitable visual strike weather exists over the target areas. In order to realize the highest possible initial impact under the circumstances, initial strikes should not be directed until favorable strike weather is forecast for at least two or three consecutive days. The mean number of days in which favorable strike weather can be expected to occur will vary from six to twelve in November to a low of two in February. The probability of realizing three consecutive days of suitable weather in any one Northeast Monsoon month ranges from two to ten percent. If the plan is executed during the Northeast Monsoon, the weight of effort which can be applied through a three or four hour daylight window will be reduced to less than one half that which can be applied during the Southwest Monsoon. Under such conditions, damage levels and target coverage will be degraded.

b. Interruptions caused by weather will operate against the military success of the campaign, limit its impact, and by extending the time required to achieve desired damage levels, enable the enemy to exact an increased toll in US aircraft losses. Interruptions will also permit the enemy to reconstitute his forces, disperse his assets, and repair or accommodate to the damage.

c. During the Southwest Monsoon season, weather is not a limiting factor and few interruptions to strike operations due to weather can be expected. Therefore, the initial phase of Options I and II would probably be completed in little more than the one or two weeks programmed.

d. If the plan is initiated during the Northeast Monsoon, aerial mining, naval gunfire, and limited all weather air operations could be conducted during periods when weather would not permit a maximum effort. These operations would cause some disruption of the North Vietnamese efforts to accommodate to the results of the bombing.

e. For maximum strike effectiveness, the field commander must retain the flexibility to determine the sequence and timing of attacks once the execute decision has been made.

7. (TS) Targets.

a. Appendix C contains a list of those targets which will be attacked during the initial phase of all options. In addition to Air Order of Battle and surface to air missile targets, economy associated targets within the following categories are included: POL, electric power, rail, highway and waterway transportation, ports, shipyards, industry, war supply, and war support material.

b. The targets comprising the water control system in North Vietnam were analyzed to determine the feasibility and desirability of attacking dams, dikes, and locks because of their potential impact on the North Vietnamese subsistence level and import requirements.

(1) Successful attacks on the locks and some dams could accomplish the following measures:

(a) The damage to the locks would interdict the in-country movement of logistics and require time comsuming bypass operations.

(b) The reduced water depths of the locks or losing control of them may require abandonment of the affected water route.

(2) The extensive nature of the dams, dikes, and locks system would require a large scale effort to appreciably affect water control over a substantial geographical area and is probably beyond the scope of a seven or fourteen day campaign. Further, successful attacks of dams would

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require special conditions of freeboard, water depth, and head pressure. If the dams were successfully breached, extensive inundation would only result during flood stage. Flood stages last three or four days and occur principally in July and August. They do not occur every year and are difficult to predict. Although less sensitive to seasonal consideration, it is estimated that a successful attack on the ten largest dams would increase rice import requirements by only about four percent of total consumption, or about 550 short tons per day (STPD).

(3) The primary effect of any attack on the dams, dikes, or locks would probably be psychological in demonstrating that this target system is no longer exempt from attack. Representative locks are included in the supplemental target list. Additional water control system elements may be targeted depending upon sortie availability following the attacks on higher value targets.

c. Target selections are designed to avoid the risk of damaging third country ships and to minimize civilian casualties to the extent feasible without compromising effectiveness.

d. Target selections are subject to continuing review and refinement and will be adjusted on the basis of latest intelligence at the time of execution.

e. A supplemental list of lower priority targets is provided as an Annex to Appendix C. These targets represent economic value, but they are less suitable than the targets selected for strike because of low physical vulnerability, net worth for weight of effort required, low impact on import requirements, or level of activity. Decision to strike these targets would be based on the most recent prestrike photography, availability of resources, and bomb damage assessment.

8. (TS) Estimated Losses. Friendly loss rates are estimated as high as five percent of the strike force early in the initial phase of each option, but can be expected to decline to less than one half of one percent as operations progress. For comparison, the overall loss rate during the last twelve months

of the North Vietnam air campaign was less than two tenths of one percent. Estimates of loss, probability of damage, and level of damage, however, have a much higher validity when applied to extended operations involving many iterations. Variants from the predicted norms can be expected in any single sampling or in operations extending over short periods.

Under this plan, the higher loss rates would apply primarily to strike aircraft. Support aircraft generally experience less exposure to active enemy defenses and, therefore, expected combat attrition is low. For example, with a total effort of 740 sorties during the first day of operation, as many as twenty, or five percent of 400 aircraft may be lost. However, by the fifth day, if the defenses were sufficiently suppressed, the total loss expectancy would be less than one half of one percent of 400 aircraft, or two. This reduced loss expectancy, less than one half of one percent, would also apply during the follow-on effort.

9. (TS) Civilian Casualties. Civilian casualties will be minimized to the extent feasible without compromising effectiveness of operations. The estimate of civilian casualties resulting from strikes against all targets as listed in Appendix C is 1,255. Necessary restrikes may produce additional casualties but these are expected to be minimal.

10. (TS) Follow-on interdiction campaign. To sustain the isolation of North Vietnam and destroy its economic viability, a highly visible major air and naval campaign over an extended period of time would be required, assuming the enemy exerted maximum efforts to adjust to the situation. This plan does not seek to affect a complete stoppage of imports, but is designed to apply a minimum essential number of strike sorties to the enemy alternate LOC in a manner which will disrupt their supply efforts and compel a substantial effort to overcome its effects. Closure of the Port of Haiphong (and other major North Vietnamese ports) and their continued remining would drastically reduce the approximate 5,900 STPD now entering North Vietnam by sea. The 600 STPD entering by the Northeast rail line would also be initially reduced as bridges and other choke points were interdicted. It is assumed that both the USSR and CHICOM will support and assist the North Vietnamese in adjusting to our interdiction efforts. During the several months required to readjust to the mining of the

ports, the North Vietnamese would have to draw down on their internal stockpiles. Ultimately, assuming continued effort by North Vietnam and support by at least China, new land LOC, coupled with some tonnage delivered by sea, could accommodate to our interdiction efforts, and probably reach current import levels. However, there will be increased import requirements resulting from the seven or fourteen day campaign against economic and war supporting targets. The application of up to 100 strike sorties on selected interdiction points combined with attacks on lighters and coastal shipping, could impose severe strains on the North Vietnamese capability to adjust.

11. (TS) Impact.

a. Assuming successful execution of the strikes called for in paragraph 5, and the achievement of desired damage levels, the North Vietnamese economy will be dealt a damaging blow. Since the strike plans are optimized for severe physical damage to essential war support and economic facilities, a substantial disruptive effect on the normal functioning of the economy could be anticipated. The enemy's attempts to rebuild the severely damaged resources would be heavily handicapped by the closure of the Port of Haiphong by mining, and the continuing disruptive attacks on the alternate LOC which the North Vietnamese will be forced to open. Initially, the North Vietnamese will be compelled to rely upon remaining stockpiles of supplies and equipment dispersed throughout North Vietnam. Heavy drawdowns on these stockpiles may be expected while the enemy seeks to reestablish new LOC. It is anticipated that several months would be required before additional rolling stock, trucks, pipelines, and lighters and barges could be assembled and organized to restore the import level of approximately 6,000 STPD now entering North Vietnam. The heavy concentration of railroad cars required on the Northeast rail line would create lucrative targets for US strike activity. The creation of choke points on the main rail, road, and waterways would result in the creation of traffic jams which would be methodically exploited by our attack aircraft. While it is estimated that the enemy could ultimately adjust to the minimum tonnages which could be imported to meet its essential requirements, such an effort would make substantial demands on the already strained manpower resources of North Vietnam, and impact on its capability to continue the war in the South. Under such a continuing interdiction campaign, progress in rebuilding the heavily damaged targets could be expected to be slow. The destruction of such facilities as the Haiphong Cement Plant and the power plants would also impose substantial additional import requirements if they attempt to rebuild their heavily damaged facilities.

b. Since the strikes in this plan are developed in a manner to optimize damage to essential war support and economic facilities, the cumulative effect on the North Vietnamese economy is expected to be severe. The largest chemical fertilizer plant in North Vietnam, the only major chemical plant, and the only known rubber, battery, and cement plants are selected for destruction. The destruction of these and similar targets, together with the coal export facilities, should be strongly felt by North Vietnam as long-term losses. Heavy dependence would have to be placed on import of such items, adding to the heavy strains already placed on alternate LOC by the closure of the Port of Haiphong.

c. The dependence on the outside communist world for increased levels of economic and material aid would place new strains, both economic and political, on North Vietnamese relations with its allies. In short, the task of rebuilding its damaged economy would be a long and difficult one, and would necessitate the development of new demands on the already heavily burdened North Vietnamese population.

d. The psychological impact of renewed air attacks is likely to be as important as the military effect. Current intelligence indicates that Hanoi probably does not expect, nor is it now prepared psychologically for, a bombing resumption. The realization by the North Vietnamese people that they were once more faced with a damaging air campaign would undoubtedly cause great consternation in Hanoi. The North Vietnamese economy, industrially and agriculturally, has suffered great damage by past bombings and the strains imposed by their support of the war in South Vietnam. With the death of Ho, it may be more difficult for Hanoi's leaders to get the people to repeat the sacrifices of the past. Capital earning exports are low, and Hanoi is becoming increasingly dependent upon outside assistance. The cumulative strains of years of costly aggression would be severely compounded by any resumption of bombing in the North. While it is difficult to quantify the total impact on the functioning of the North Vietnamese society, Hanoi is now believed to be more vulnerable to psychological pressures which might be induced by bombing than at any time since 1965. On the other hand, the psychological reaction may take the form of renewed solidarity on the part of the North Vietnamese people. They may rally behind the emerging leaders and exhibit the same patriotic fervor that characterized their efforts during the previous bombing campaign.

e. In summary, heavy damage to the economy, severe psychological shock to the leadership and people, drastically increased dependence upon outside sources, and the knowledge that the United States is determined to do what is necessary to end the war, may well combine to bring about a fundamental change in North Vietnamese willingness to continue its support of the war in South Vietnam.

12. (TS) While not a part of this plan, provisions could be made for continuation of the fourteen day attack plan to achieve a decisive military/psychological impact on North Vietnam. Such a campaign would continue destructive attacks to further reduce the North Vietnamese economy and internal war support capability to ineffectiveness, and to isolate North Vietnam from external support. Employment of maximum resources in such a campaign would probably result in almost complete elimination of effective North Vietnamese support of the war effort in South Vietnam, and withdrawal of substantial North Vietnamese forces which could no longer be supported. It could cause North Vietnam to seek a political settlement. To achieve these results would require a maximum air campaign, with minimum restraints, extending over at least one and possibly two good weather seasons.

13. (TS) The Joint Chiefs of Staff consider that:

a. This plan provides a suitable option for exerting additional pressure to compel the North Vietnamese to cease their aggression in South Vietnam.

b. While the military courses of action contained herein by themselves may not be sufficient to physically compel the North Vietnamese to cease all aggression, the combined military, psychological, and economic impact could induce a major change in North Vietnamese willingness to continue the war.

14. (TS) The Joint Chiefs of Staff recommend that this concept plan be approved as a basis for development of a detailed contingency plan.

15. (TS) To provide additional refined data to support the estimated impact of this strike plan on the North Vietnamese economy, the Joint Chiefs of Staff are conducting a detailed quantitative study. Results will be forwarded upon completion.

FOR THE JOINT CHIEFS OF STAFF:

Earle G. Wheeler

EARLE G. WHEELER
Chairman
Joint Chiefs of Staff

APPENDIX A

INITIAL PHASE FORCE GENERATION RATES

DAILY SORTIES

	SW MONSOON		NE MONSOON
	D-1 thru D-7 STK/SPT	D-8 thru D-14 STK/SPT	D-1 thru D-14 STK/SPT
CTF-77 (4 CVAs)	174/160	172/116	72/72
7AF (with tanker augmentation)	194/152	226/120	120/96
1st MAW	32/28	36/24	16/14
Total STRIKE/SUPPORT	400/340	434/260	208/182
Total	740	694	390

The strike/support ratios are for planning purposes only and reflect probable distribution based on the estimated enemy air defense threat. The daily strike/support ratio will vary depending on the existing tactical situation.

The estimated force generation capability for the Southwest Monsoon is the maximum sustained sortie rate, disregarding weather, that can be supported. During the first seven days three CVAs will be committed to daylight strike operations. Each CVA will launch three strike groups per day. The fourth CVA will provide force protection, SAR/RESCAP support and night attack forces. After seven days operation, the 4th CVA will also be placed on daylight operations for the remaining seven days of the 14 day initial phase. Each CVA will then launch two strike groups per day.

The estimated force generation capability for the Northeast Monsoon is based on three to four daylight hours of favorable strike weather.

APPENDIX B

DAMAGE CRITERIA

CATEGORY	% PROBABILITY	% DAMAGE LEVEL
Airfield--RR Shop--Military--Supply/Ammo--Naval Base/Port--SAM/SAM Support--Industry	50	30
POL--Power	50	70
RR Yard	50	12
Bridge	85	collapse 1 span
Lock	85	collapse entrance
Airfield Runway	75	cratering
Parked Aircraft	50	70
Vehicle--Rolling Stock	50	12

Targets in Appendices C and D are weaponeered against the JCS criteria as indicated above. Sortie requirements reflect JCS planning factors for aircraft and weapons reliability and are based on the following:

a. Each strike sortie delivering:

1) Nine 500 lb high drag bombs (SNAKE EYE) on airfields for cratering runways and taxiways sufficiently to prevent take-off or landing of jet aircraft.

2) Six CBU-24 bomblet canisters for damaging aircraft sufficiently to prevent take-off.

3) Six 750 lb general purpose bombs on all other categories.

b. Each strike sortie achieving a 200' circular error of probability. Any results which deviate from this standard will:

1) If the CEP is lower, either increase the indicated probability of achieving the specified damage level or increase the percentage of damage expectancy with the same indicated probability, or a combined but lesser increase in both.

2) If the CEP is higher, either decrease the indicated probability of achieving the specified damage level, or decrease the percentage of damage expectancy, or decrease both.

Effect of CEP variation is shown below:

Target - JCS No. 77 - Hanoi Machine Tool

	Strike Sorties	Probability	Damage Level
200' CEP	30	50%	30%
300' CEP	30	40%	30%
300' CEP	30	50%	25%
300' CEP	36	50%	30%

TARGET LIST - INITIAL PHASE

This appendix provides a list of fixed targets upon which maximum available effort will be applied during the initial phase. These targets are weaponeered to provide the estimated sorties required to achieve the damage criteria specified in Appendix B. The estimated flak suppression and MIG CAP sorties are computed for each individual target based on the required number of strike sorties, target location and target defenses. Since many of the targets are located in close proximity to one another, many of the support forces will be able to provide mutual protection for more than one strike flight, reducing the total forces required for any given strike day.

Assuming an average of 400 strike sorties per day, 2,800 strike sorties would be available for the 7 day option and 5,600 for the 14 day option. Initial laydown as indicated in the attached target list will utilize approximately 1,500 strike sorties to meet the damage criteria with a 200' CEP as applicable. Approximately 100 sorties are allocated to initial mining and 500 to AOB/SAMs. 1,000 sorties will permit at least one restrike package against the economic target list, leaving the balance for reseeding, restrikes on AOB, attacks against lighterage and high value fleeting targets. The 7 day option will drastically reduce the number of sorties available for either the fixed target list or targets of opportunity.

A sample strike sortie distribution follows:

	7-Day Option		14-Day Option
	1st Strike	Restrike(50%)*	Restrike(100%)*
Economic Targets	1,000	1,500	2,000
AOB/SAM	500	750	1,000
Mining	100	210	210
Lighterage, Coastal Targets	400	140	1,000
High Value Fleeting	800	200	1,390
	2,800	2,800	5,600

For the Northeast Monsoon options, weather will be the determining factor for restrikes and relative priority of targets.

* Restrike factor applies only to economic and AOB/SAM targets.

APPENDIX C

TARGET LIST

TGT #	NAME	EST SORTIES STK	FLK	CAP	TOT	CIV CAS
3	Hanoi/Gia Lam AF	28	12	12	52	5
6	Phuc Yen AF	50	16	16	82	5
7	Hanoi/Bac Mai AF	18	8	12	38	0
8	Cat Bi AF Open Stor	92	12	12	116	2
9	Haiphong/Kien An AF	24	12	12	48	2
9.1	Kep AF	22	8	12	42	1
10	Ninh Binh RR Br	90	12	4	106	7
12	Hanoi RR/Hwy Br Red R	26	12	12	50	1
13	Hanoi RR/Hwy Br Canal	28	12	12	52	0
15	Viet Tri RR/Hwy Br	28	8	12	48	1
16	Dap Cau RR/Hwy Br	30	8	12	50	0
18.23	Bac Giang RR/Hwy Br	18	4	8	30	6
18.6	Tam Da RR/Hwy Br	126	12	4	142	0
19	Yen Vien RR Yd	8	4	8	20	2
20	Hanoi RR Repair Shops	16	8	12	36	49
21	Hanoi RR Yd/Shops	20	8	12	40	75
22	Xuan Mai Bks SSW	14	8	8	30	4
39.43	Kep Bks S	14	4	8	26	0
48	Haiphong POL	6	4	4	14	3
49	Hanoi POL	6	4	8	18	4
50	Vinh POL	8	4	4	16	1
51.1	Ha Gia POL SSW	32	8	8	48	6
60	Thai Nguyen Supply Dpo N	14	4	8	26	4
63.11	Van Dien Veh Dpo	26	12	12	50	11
68	Cam Pha Port	26	8	8	42	45
68.1	Cam Pha Approaches (Mining)	8	4	4	16	0
69	Hon Gai Port	10	4	8	22	10
69.1	Hon Gai Approaches (Mining)	20	4	8	32	0
70 (0001)	Haiphong Docks (Area E)	22	12	12	46	65
70 (0004)	Haiphong Naval Base (Area D)	38	12	12	62	11
70 (0671)	Haiphong Shipyard 4 (Area C)	30	12	12	54	37
70 (0672)	Haiphong Shipyard 1 (Area F)	10	8	8	26	30

TGT #	NAME	EST SORTIES				CIV
		STK	FLK	CAP	TOT	CAS
70.1	Haiphong Approaches (Mining)	36	8	12	56	0
71.09	Phuc Loi Approaches (Mining)	8	4	4	16	0
73	Hanoi Port (Areas A,C,D)	18	8	12	38	60
74	Quang Khe Approaches (Mining)	14	4	4	22	0
75	Viet Tri Chemical Plant	24	8	12	44	67
77	Hanoi Machine Tool Plant	30	12	12	54	21
77.1	Haiphong Cement Plant	10	8	8	26	18
78.1	Phu Tho Fert Plant	36	8	12	56	24
80	Haiphong TPP W	6	4	4	14	18
81	Hanoi TPP	4	4	8	16	19
82	Uong Bi TPP	4	4	8	16	2
82.13	Hon Gai TPP	4	4	4	12	4
82.15	Nam Dinh TPP	18	4	4	26	31
82.16	Thai Nguyen TPP	6	4	4	14	3
82.17	Viet Tri TPP	4	4	4	12	11
82.26	Bac Giang TPP	4	4	4	12	9
616-0002	Haiphong RR/Hwy Br	36	12	12	60	10
616-0030	Haiphong RR Yd/Shops	4	4	4	12	200
616-0067	Haiphong RR Yd W	6	4	4	14	7
616-0070	Haiphong Hwy Br SSE	18	8	8	34	3
616-0085	Kien An Hwy Br	12	8	8	28	0
616-0156	Haiphong Bks Se Ca	18	8	12	38	4
616-0256	Ha Dong Bks SW	6	4	4	14	0
616-0260	Hanoi Rubber Prod	8	4	8	20	2
616-0268	Hanoi Vehicle Repair	8	4	8	20	60
616-0287	Hanoi Bks W Yen	26	12	12	50	18
616-0302	Hanoi Stor Gia	24	12	12	48	2
616-0322	Kinh No RR Yd	6	4	4	14	5
616-0433	Hanoi Engineering Plant	4	4	8	16	20
616-0776	Haiphong Warehouse NE	12	8	8	28	4
616-0779	Van Dien Battery Plant	4	4	8	16	2

TGT #	NAME	EST SORTIES				CIV
		STK	FLK	CAP	TOT	CAS
616-0901	Haiphong Warehouse Port	8	4	4	16	25
616-0902	Nguyen Khe Stor	10	8	12	30	2
616-0922	Hanoi Machinery Plant Gia	6	4	8	18	34
616-1033	Haiphong Warehouse	6	4	4	14	31
616-1236	Van La Stor S	8	4	8	20	2
616-1295	Hanoi Vehicle Maint	4	4	8	16	2
616-2516	Haiphong Warehouse 3	4	4	4	12	15
616-2706	Hanoi Vehicle Repair SW	6	4	8	18	44
616-3547	Trung Quan RR Yd	6	4	8	18	4
616-4237	Haiphong Open Stor Mall	10	8	8	26	30
616-4245	Haiphong Open Stor 1	4	4	4	12	9
616-4246	Haiphong Stor 2	8	4	4	16	5
616-4410	Hanoi Vehicle Maint S	4	4	8	16	16
616-4414	Haiphong Hwy Br SW	26	12	12	50	4
616-4788	Haiphong Hwy Br 2	14	8	8	30	4
616E6643	Bac Mai EW/GCI Radar	6	4	8	18	0
616E7340	Haiphong Kien An Radar	6	4	4	14	5
616E7735	Hoa Lac EW/GCI Radar	4	4	4	12	0
616-8592	Yen Bai AF	16	4	8	28	2
616-8593	Hoa Lac AF	28	8	12	48	0
617-4717	Dong Hoi Approaches (Mining)	4	4	0	8	6
617-5659	Vinh POL NW Pipeline Dpo	8	4	4	16	0
617E7073	Bai Thuong EW/GCI Radar	6	4	4	14	0
617-8702	Bai Thuong AF	8	4	4	16	3
	Totals	1536	580	696	2812	1255

SUPPLEMENTAL TARGET LIST - INITIAL PHASE

JCS #	BE NO.	NAME	EST SORTIES STK	FLK	CAP	TOT	CIV CAS
14	617-0002	Thanh Hoa RR/Hwy Br (Ho Chi Minh)	10	4	4	18	9
71.11	617-0783	Thanh Hoa Lock	182	40	20	242	5
71.2	616-0735	Ben Thon Lock	182	40	20	242	1
71.21	616-0739	Van Cau Lock	190	40	20	250	1
71.22	616-0743	Lu Yen Lock	182	40	20	242	1
73	616-4108	Hanoi Port Facility (Areas B & F)	16	8	12	36	108
79	616-0142	Bac Giang Chem Fert Plt	32	12	12	56	47
82.12	616-0051	Haiphong TPP E	4	4	4	12	20
82.14	616-0153	Lao Cai TPP	4	4	4	12	17
82.25	616-0703	Lang Chi TPP	10	4	4	18	0
	616-0038	Hanoi Bks/Supply	30	12	12	54	2
	616-0042	Lang Son RR Siding S	6	4	4	14	0
	616-0053	Nam Dinh Cotton Text Mill	4	4	4	12	25
	616-0130	Chuc Son Bks	6	4	4	14	1
	616-0258	Hanoi Bks NNW	20	8	12	40	2
	616-0433	Hanoi Engineering Plt	4	4	8	16	20
	616-0649	Hanoi Chem Fert Plant	4	4	8	16	4
	616-0922	Hanoi Machinery Plt	6	4	8	18	34
	616-0923	Hanoi Machinery Plt Mai Dong	4	4	8	16	30
	616-0925	Hanoi Textile Plt 8 March	4	4	8	16	30
	616-0971	Haiphong Machinery Plt Duyen Hai	4	4	8	16	30
	616-1008	Haiphong Plastics Plt	4	4	8	16	30
	616-1123	Hai Duong Chem Fert Plt	4	4	8	16	20
	616-2058	Hanoi Elec Eng Plt	4	4	8	16	20
	616-2490	Haiphong Market	4	4	4	12	65
	616-2499	Haiphong Open Storage Slaughter	4	4	4	12	3

JCS#	BE NO.	NAME	EST SORTIES STK	FLK	CAP	TOT	CIV CAS
	616-2704	Hanoi Warehouse Vinh Tu	4	4	8	16	18
	616-3812	Haiphong DPP Aux 1	24	12	12	48	8
	616-3813	Haiphong DPP Aux 2	24	12	12	48	2
	616-3826	Haiphong DPP Aux 3	24	12	12	48	6
	616-3873	Haiphong Veh Repair	6	4	4	14	5
	616-4076	Haiphong DPP Aux 4	24	12	12	48	2
	616-4675	Haiphong DPP Aux 5	12	8	8	28	3
	616-4891	Haiphong Open Storage #2	30	12	12	54	0

APPENDIX D

TARGET LIST - FOLLOW-ON PHASE

The following list of railroad bridges and yards on the Northeast and Northwest rail lines represents the best targets available for interdiction. Successful strikes on these bridges and railyards would reduce for a short time the throughput capacity. However, trucks and/or ferry shuttles around struck bridges, and the ease of rapid repair of the railyards, would allow a continuing flow of supplies. Alternate highway routes, as well as sea LOCs would be used to supplement the reduced flow.

NORTHEAST RAIL INTERDICTION TARGETS

JCS #	BE NO.	NAME	STRIKE A/C	CIV. CAS.
18	616-0025	Lang Son RR/Hwy Br	26	58
-	616-0041	Lang Gia RR Yd	6	0
-	616-0044	Dong Dang RR Yd	8	0
-	616-0221	Yen Vien RR Yd	8	2
18.58	616-0665	Lang Dang RR Br	64	1
18.24	616-0707	Coa Nung RR Br	49	0
-	616-1586	Lang Dang RR Yd/Shops	12	5
-	616-3547	Trung Quan RR Yd	6	4
-	616-4375	Lang Dang RR Bypass Br	7	1

NORTHWEST RAIL INTERDICTION TARGETS

JCS #	BE NO.	NAME	STRIKE A/C	CIV. CAS.
15	616-0017	Viet Tri RR/Hwy Br	28	1
-	616-0034	Lao Cai RR Yd	12	21
-	616-0037	Viet Tri RR Yd	6	2
-	616-0322	Kinh No RR Yd	6	5
-	616-0338	Yen Bai RR Yd	4	0
-	616-0708	Dai Loi RR Br	30	1
18.27	616-0783	Lang Bun RR Br	80	0
-	616-3546	Duc Noi RR Yd	12	4

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HIGHWAY INTERDICTION TARGETS

The following list of highway bridges represents the best targets available for highway interdiction north of Hanoi. Considering the 14 crossing points from China, plus the numerous ferries and fords, which can be used as bypasses, it is not possible to compile a list of targets which will guarantee successful interdiction of land LOCs leading south from China.

JCS #			STRIKE A/C	CIV. CAS.
12	616-0012	Hanoi RR/Hwy Br (Doumer)	26	1
15	616-0017	Viet Tri RR/Hwy Br	28	1
16	616-0023	Dap Kau RR/Hwy Br E	30	0
18	616-0025	Lang Son RR/Hwy Br	26	58
18.25	616-0065	Hai Dong RR/Hwy Br E	34	1
18.23	616-0479	Dac Giang RR/Hwy Br	18	6

APPENDIX E

OUTLINE PLAN FOR CLOSURE OF HAIPHONG PORT COMPLEX, BEN THUY, QUANG KHE, AND DONG HOI

PURPOSE: To provide an outline plan for the offensive aerial mining and destructor seeding of all deepwater ports in North Vietnam. This operation will deny maritime shipping access to port facilities and disrupt attempts to transship cargo by small craft and barges from deepwater anchorages.

MINING PLAN

TARGETS: Haiphong Port Complex, including Haiphong, Hon Gai, and Cam Pha; and the supplemental minefields at Vinh, Quang Khe, and Dong Hoi.

TASK ORGANIZATION:

a. Mining Forces:

Option		Number CVAs
ALPHA One	-	One Large Deck, Two 27-Cs
ALPHA Two	-	Three 27-Cs
BRAVO One	-	One Large Deck, One 27-C
BRAVO Two	-	Two 27-Cs
CHARLIE	-	One Large Deck

b. Support Forces:

(1) Option ALPHA One and Two: One ammunition ship would be located in the Tonkin Gulf to transfer mines to the CVAs.

(2) Options BRAVO and CHARLIE: Mines would be prepositioned on the CVAs. No supporting AE required.

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(3) All Options: DDs and CLG/CAG will provide control and monitoring during the mining missions. After the planting of the mine/destructor fields, NGFS will interdict lighterage attempts.

CONCEPT OF OPERATIONS:

a. The plan is segmented into various options dependent upon the number of CVAs available and type of CVA, large deck or 27-C class, as shown under Task Organization. Option ALPHA One is recommended for execution of this plan.

b. There are a total of 18 minefields/destructor fields. Nine are primarily deepwater bottom minefields, five are pure destructor fields, and four are combined mine and destructor fields.

c. The following table shows the weight of effort for the Haiphong, Quong Khe, Dong Hoi, and Ben Thuy minefields.

Option	Type Weapon	Number Weapons	Numbers A/C Sorties
ALPHA One	Bottom Mines	170	35
	Destructors (MK36/MK40)	714	64
ALPHA Two	Bottom Mines	170	67
	Destructors (MK36/MK40)	714	79
BRAVO One	Bottom Mines	114	25
	Destructors (MK36/MK40)	722	60
BRAVO Two	Bottom Mines	114	44
	Destructors (MK36/MK40)	550	61
CHARLIE	Bottom Mines	114	25
	Destructors (MK36/MK40)	504	35

d. Option ALPHA One will require about 99 strike aircraft sorties from three CVAs to deliver 170 sea mines and 714 destructors. The operation would be executed in two phases: (1) Phase One - laying a portion of the sea mines and destructors on D Day and D+1. An arming delay of 72 hours on all sea mines is provided to allow third country shipping time to clear the NVN ports after announcement by the US Government that the minefields have been planted. (2) Phase Two (D+5) - seeding the remaining destructors in the channels which were left open for the exit of third country shipping. This would be done no sooner than 48 hours after the initial seeding in Phase One since destructors have only a 24-hour arming delay.

e. This plan as a separate operation would effectively impair the logistic support that presently enters via Haiphong. By itself the mining operation would have a high psychological impact on North Vietnam leadership and the third countries now providing support to North Vietnam. Further, it would face the North Vietnamese with logistics problems of great magnitude in the development of alternative supply routes. If executed as a separate option, timing would be:

Option	Reaction Time
ALPHA One	86
ALPHA Two	86
BRAVO One	12
BRAVO Two	12
CHARLIE	12

(1) The 86-hour reaction time is a worst case which assumes one of the three CVAs is located in Singapore. If a pre-alert message is received and all three CVAs are in the Tonkin Gulf, the reaction time for Option ALPHA would be 14 hours.

(2) The 12-hour reaction time assumes that the designated CVAs have been preloaded with required mines. An early decision is required to load out designated CVAs.

WEATHER: This plan should be executed during daylight hours, in weather conditions with a ceiling of at least 1,000 feet and with at least 5 NM visibility. The main sea minefields for Haiphong can be laid at night or in weather conditions less than the recommended minimums.

SUPPORTING ACTIONS: Immediately following initiation of air operations against North Vietnam, naval destroyers and cruisers will be deployed into NVN coastal waters to attack lucrative targets such as NVN coastal shipping, waterborne logistic craft and transshipment points. Armed reconnaissance and naval gunfire will be employed on a continuing basis to interdict any attempts to transship by NVN small craft from ships anchored outside minefields or from other ports.